



Department of Planning, Industry and Environment

Barwon-Darling Rivers

Water for the Environment: Annual Priorities 2021-22



Water for rivers and wetlands



The Barwon-Darling rivers rely on rainfall and inflows from tributaries to support river health. Many of the tributaries which flow into the Barwon-Darling system are regulated by dams, weirs and floodplain structures. This limits the ability of water managers to actively plan events to enhance river and wetland outcomes in this system.

Extended periods of cease-to-flow have dominated the flow regime of the river system during the period 2016-21. In summer 2020-21, the river benefited from flows from both Queensland and NSW tributaries, replenishing pools along its length and delivering more than 200 gigalitres to the Menindee Lakes system.

The river has been refreshed from tributary flows from March 2021 with inflows continuing into the end of the 2020-21 water year. Headwater storages have begun to recover with some even looking like spilling early in the 2021-22 water year. Opportunities may arise for water managers to actively manage environmental releases to benefit the Barwon-Darling system.



Weather and water forecast



In April 2021, the Bureau of Meteorology confirmed the 2020–21 La Niña has now passed. Climate model outlooks indicate the El Niño–Southern Oscillation (ENSO¹) is now neutral with no sign of either La Niña or El Niño developing at least until September 2021. Rainfall was above average and temperatures warmer than average in May and June for eastern mainland Australia, including the Barwon-Darling catchments, and this will continue in July. However, resource availability scenarios are predicted to increase water availability.

Natural inflows are likely to continue in the Barwon-Darling, allowing water managers to call upon water using water licenses held in various locations along the system.

Water managers have prepared annual watering plans that consider a range of weather and water availability scenarios. This is known as resource availability scenario planning. On balance the outlook is rated as dry to moderate.

Resource availability scenario



Very dry

Main aim: Protect

- Avoid critical loss
- Maintain key refuges
- Avoid catastrophic events



Dry

Main aim: Maintain

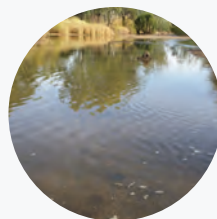
- Maintain river functioning
- Maintain key functions of high priority wetlands



Moderate

Main aim: Recover

- Improve ecological health and resilience
- Improve opportunities for plants and animals to breed, move and thrive



Wet to very wet

Main aim: Enhance

- Restore key floodplain and wetland linkages
- Enhance opportunities for plants and animals to breed, move and thrive

¹ENSO: The interaction between the sea surface and atmosphere over the Pacific Ocean which results in dryer or wetter conditions (El Niño or La Niña).

Key planned actions for 2021-22



Waterbirds

Colonial waterbird breeding is not expected without significant overbank flows.

The diversity of waterbirds in riparian areas is expected to improve, with abundance varying depending on conditions in the whole northern basin.



Native fish

As fish populations are still recovering from significant fish kills in the northern basin, a key priority is to support remaining stocks of native fish and provide opportunities for them to breed and disperse into refuge habitat.

A key goal of water managers in 2021-22 is to maintain refuge habitat and supply of food resources to support native fish and mussels, as well as turtles, rakali and other aquatic and amphibious fauna.



Vegetation

Flows in late 2020 and early 2021 have provided enough water to maintain existing riparian river red gum areas. If dry conditions return, the demand for water to sustain these values will increase.

Higher river freshes (less than a bank full) or overbank flows are needed for useful watering for other floodplain vegetation. These flows cannot be provided by regulated connection events.



Connectivity

Under dry conditions, cease-to-flow periods may return in 2021-22, with a possibility of intermittent freshes in tributary systems. Under more moderate conditions, a return to more reliable flows in the system is possible.

A priority in 2021-22 is increasing connection between the Barwon-Darling River and the Lower Darling downstream of Menindee Lakes to support the recovery of native fish populations. Sustained connection along the length of the river requires widespread and persistent rain across the northern basin.

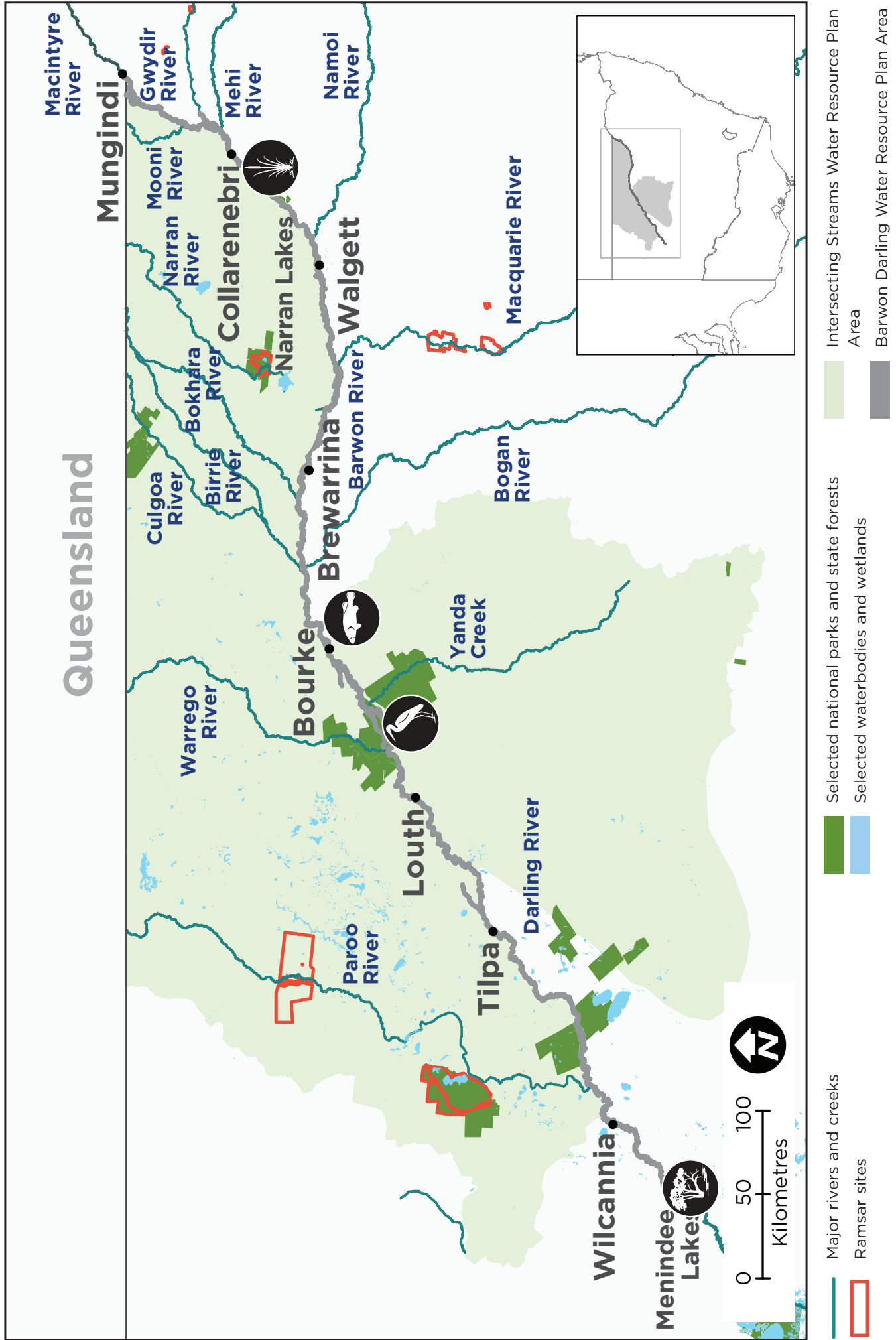


Figure 1 Map of the Barwon-Darling Water Resource Plan area 2021-22.

How we make decisions



Watering actions cannot be planned in the Barwon-Darling rivers in the same way water for the environment can be managed in a regulated catchment. Environmental outcomes are typically generated by using licences to reduce the volume of water taken from flow events and to connect smaller flows to the system from regulated catchments.

The NSW Government works with the Commonwealth Environmental Water Holder to manage water in the catchment.

Currently, there is no Environmental Water Advisory Group in the Barwon-Darling system, so decisions are made by the Department of Planning, Industry and Environment in partnership with the Commonwealth Environmental Water Office.



What is water for the environment?

Water for the environment is a share of the water in dams and rivers that is set aside to support the long-term health of local rivers, creeks and wetlands. Healthy rivers carry water to homes, farms, schools and businesses. Rivers are important cultural and spiritual sites for Aboriginal people and the broader community.

About the watercourse



The Barwon-Darling connects the river systems of the northern Murray-Darling Basin with those of the south.

Several major river systems flow into the Barwon-Darling including the Culgoa, Gwydir, Border, Namoi, Macquarie, and intersecting streams.

The Barwon-Darling rivers are the unregulated section of the river channel from the junction of the Macintyre and Weir rivers, near Mungindi, through to Lake Wetherell, part of the Menindee Lakes system. It includes distributary creeks like the Talywalka and a myriad of floodplain wetlands, billabongs and streams.

The Barwon-Darling rivers and wetlands support important Aboriginal cultural heritage values for the Euahlayi, Barkindji, Murrawarri, Ngemba, Gomeroi and Ngilyampaa people.

Table 1 Expected environmental water volumes available at 1 July 2021.

Source	Maximum volume available (megalitres – ML)	Volume expected 1 July under current conditions (megalitres – ML)
Water licenced to the Commonwealth		
A class unregulated	73 ML	Event-dependent
B class unregulated	16,060 ML	Event-dependent
C class unregulated	12,498 ML	Event-dependent
Water licenced to NSW		
A class unregulated	191 ML	Event-dependent
B class unregulated	51 ML	Event-dependent
Unregulated	1488 ML	Event-dependent

Note: This is an indicative summary of expected volumes to be available. For further detail and information on available volumes, please contact the region via Department enquiries on 1300 361 967. 1 gigalitre = 1000 megalitres; 2.5 megalitre = 1 Olympic swimming pool

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Cover photo: Standing on concrete wall on the riverbank looking upstream on Barwon River at Collarenebri (David Preston/DPIE); Page 2: The Darling River and gum (Neal Foster), Barwon Darling Bre Fish Traps. (Matthew Miles/DPIE); Page 3: In stream, Barwon Darling at Toorale National Park (Matthew Miles/DPIE), Infographic (J Humphries/DPIE); Page 6: A billabong on the Barwon-Darling River begins to fill (Matthew Miles/DPIE), On Bank, Barwon Darling at Toorale National Park (Matthew Miles/DPIE); Page 7: The Darling River at Weir 20a (Neal Foster).